CLAIMS

1. A method for transmitting traffic in an optical communication system comprising:

separating the input traffic into a plurality of data signals;

parameter encoding the data signals;

transmitting each of the data signals on a separate optical channel;

receiving the data signals on the channels;

parameter decoding the data signals; and

combining the plurality of data signals from the channels into output traffic corresponding to the input traffic.

2. The method of claim 1, wherein the parameter encoding occurs before transmitting.

3. The method of claim 1, wherein the parameter encoding occurs before separating.

4. The method of claim 1, wherein parameter encoding includes inserting a known time shift between at least two of the data signals.

5. The method of claim 1, wherein parameter encoding further includes:

separating the input traffic into a plurality of portions;

separating the input traffic into an additional plurality of portions;

assigning the plurality portions in a first order to a plurality of data signals;

assigning the plurality of additional portions in a second order to the plurality of data signals.

6. The method of claim 1, wherein parameter encoding includes separating the input traffic into a plurality of portions and varying the size of the portions.

7. The method of claim 1, wherein parameter encoding includes FEC encoding the input traffic wherein the parameters of the FEC encoding vary over time.

8. A method for transmitting traffic in an optical communication system comprising:

deinterleaving input traffic into a plurality of data signals;

transmitting each of the data streams on a separate channel;

inserting a known time shift between at least two of the data signals;

receiving the data signalss;

compensating for the time shift between the data signals; and

interleaving the data signals from the channels into output traffic corresponding to the input traffic.

9. The method of claim 8, wherein compensating for the time shift includes compensating for the known time shift and compensating for chromatic dispersion between channels.

10. The method of claim 8, wherein inserting includes inserting a known time shift between at least two of the data streams after transmitting each of the data signals on a separate channel.

11. The method of claim 8, wherein inserting includes inserting a known time shift between at least two of the data signals after deinterleaving and before transmitting.

12. The method of claim 8, wherein the known time shift is randomly selected.

13. The method of claim 8, wherein the known time shift is selected from a list of shift values and wherein a different set of shift values is selected from the list over time.

14. A method for transmitting traffic in an optical communication system comprising:

separating the input traffic into a plurality of portions;

separating the input traffic into an additional plurality of portions;

assigning the plurality portions in a first order to a plurality of data signals;

assigning the plurality of additional portions in a second order to the plurality of data signals;

transmitting each of the data signals on a separate channel;

receiving the data signals on the channels;

combining the plurality of portions into output traffic corresponding to the input traffic; and

combining the plurality of additional portions into output traffic corresponding to the input traffic.

15. The method of claim 14, wherein the first and second orders are randomly selected.

16. The method of claim 14, wherein the first order and second order is selected from a list of orders.

17. The method of claim 14, wherein the size of the portions is randomly selected.

18. The method of claim 14, further including FEC encoding the input traffic.

19. The method of claim 18, wherein the parameters of the FEC encoding vary over time.

20. The method of claim 18, further including inserting a known time shift between at least two of the data signals.